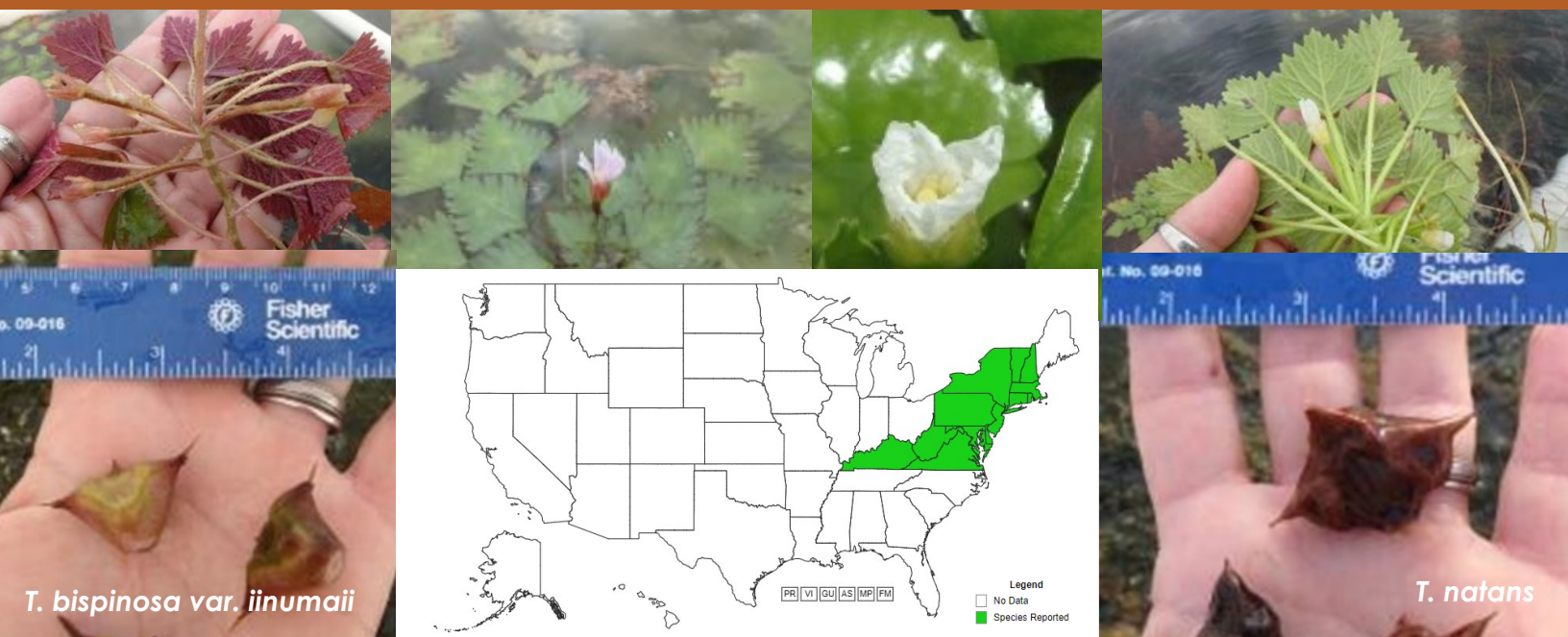


# USACE Invasive Plant Species Best Management Practices

## Water Chestnut (*Trapa* spp.) — Lythraceae (Loosestrife)



### Habitat & Life History

Aquatic species – OBL – Introduced – Annual – Native to Eurasia and Africa – Sexual reproduction

### Integrated Management Strategy Selections

Prevention      Chemical      Biological      Mechanical      Cultural



#### PREVENTION

- Competitive exclusion through a sustainable/resilient native dominated vegetation community that prevents establishment of invaders



#### CHEMICAL CONTROL

- Herbicides—2,4-D, florypyrauxifen-benzyl, fumioxazin, triclopyr
- Use-pattern—water column, foliar
- \*Refer to product label for specific instructions on rate & use-pattern



#### BIOLOGICAL CONTROL

- Agents—*Ctenopharyngodon idella* (triploid grass carp), nonselective and restrictive in some states;
- Galerucella birmanica* (leaf beetle) is currently being investigated



#### MECHANICAL CONTROL

- Manually remove small infestations by pulling the entire plant from the sediment; mechanical harvesting for larger established populations (target before fruit production)



#### CULTURAL CONTROL

- Drawdowns before fruit production to desiccate rosettes



#### MANAGEMENT SEQUENCING

- Timing of control methods—best option is to apply chemical & mechanical control prior to fruit production
- Monitoring—continual follow-up & additional treatment if necessary
- Niche-filling/Restoration—establish competitive native vegetation to prevent introductions



#### COMMENTS

- Spreads from seeds & rosettes



Updated—2021

Contributors, data sources, documentation @ [apcrp.el.erdc.dren.mil](https://apcrp.el.erdc.dren.mil)